

## REMARKS

These remarks are in response to the Office Action mailed April 21, 2004. As required by the Examiner, an abstract of the disclosure is attached for this application.

### **Claim Rejections, 35 U.S.C. § 112**

Claims 24, 32, 40 were rejected as non-enabling and indefinite under U.S.C. § 112, because the term "logic" is viewed as covering an algorithm. While it is believed that referring to "logic" in the present context would be understood under current usage as meaning logic that is embodied in some form, applicant has nonetheless amended these claims to refer explicitly to "embodied logic." That this logic can be embodied in various ways, including hardware and software, is specifically addressed in the specification at least at page 9, line 24 to page 10, line 2.

### **Claim 1**

Claim 1, as now amended, is directed to a proof generation method that includes receiving halftoned print data that has been produced by a first halftoning technique, and applying a different halftoning technique to that print data. This claim therefore requires that there be superimposed halftoning operations on a same data stream.

By superimposing two halftoning techniques together, the claimed method can yield a proof that represents both the halftone pattern and the colors of a press. This can allow *Moiré* patterns on the press to be predicted from the proof more accurately. And predicting *Moiré* patterns can allow a user to correct them before undertaking the potentially expensive and time consuming task of running the print job on the press.

Claim 1 stands rejected as anticipated by Spence. As shown in Fig. 1, Spence discloses an image matching technique in which a set of digital separations can be used to obtain a set of screened halftone separations 120 or can be used directly within a direct digital color proofing system 143 (col. 13, lines 42-45).

But Spence clearly states that these are two alternative uses for the digital separations, and not two superimposed or successive operations to be applied to a same data stream. That the uses are alternative is clear from the choice of the word "either" at col. 13, line 43. It is also

apparent from Fig. 1 that there is no path from the halftone separations 120 to the direct digital color printing system 143. Spence therefore fails to disclose the receipt of halftoned print data that has been produced by a first halftoning technique in combination with the application of a different halftoning technique to that print data, as now required by amended claim 1. The anticipation rejection of claim 1 should therefore be withdrawn.

Nor does Spence render obvious the invention as now claimed in amended claim 1. Spence teaches a method of generating a color match through the adjustment of solid and tint densities. But nowhere does he disclose the application of two different superimposed halftoning techniques, nor does he meaningfully address the issue of *Moiré* patterns. The Spence patent therefore would not render obvious the invention as it is now claimed in amended claim 1. Independent claims 17 and 18 also distinguish over the prior art of record for at least reasons similar to those advanced in support of claim 1.

#### **Claim 19**

Claim 19 is directed to a proof generation method for ink jet proof printers that includes receiving print data to which a first halftoning technique has been applied to obtain screen image data representing a plurality of screen dots. The invention also includes creating one or more lightened areas, where direct deposition of colorant is to be lightened within a sub-area of at least some of the screen dots to be printed. The method is optimized to accurately reproduce the shaded visual image that would be printed on a printing press.

Creating lightened areas within screen dots allows them to be made to appear lighter, without changing their size. This can allow copy from a proof printer to more closely match the dots of a particular printing press, even if the color densities of the inks used on the two machines do not match. And more closely matched dots can make it easier to evaluate a proof for *Moiré* issues before undertaking the potentially expensive and time consuming task of running a corresponding print job on the press.

Claim 19 stands rejected as obvious over Spence in view of Vink. But neither Spence nor Vink teach lightening areas of screen dots. Spence tries to match colors on a dye sublimation printer to output of an offset press by determining changes in values of process color solid and tint densities. But these changes are then converted to dot size recommendations (col. 24, lines

37-38, col. 24, lines 32-34). Nowhere in Spence is there any disclosure or suggestion to lighten areas of screen dots, nor does Spence address *Moiré* patterns in any meaningful way.

And Vink discloses a method of silk screen printing (serigraphy), in which a free flowing ink is pressed through screen cells of a screen, for use on materials such as posters, wallpaper, printed circuit boards, textiles, pottery, or floor tiles (col. 1, line 19-21, col. 2, line 60-65).

Vink's disclosure discusses the reduction of *Moiré* patterns by appropriate orientation of the screens with respect to each other. But Vink does not address matching *Moiré* patterns on a press and makes no mention of any attempts to lighten areas of screen dots to achieve this end. Thus neither Spence nor Vink, whether taken alone or in combination, disclose or suggest the invention as claimed in claim 19.

Furthermore, one of ordinary skill in the art would not be motivated to combine the teachings of the Spence and Vink applications in the manner set forth in the office action. This is because one of ordinary skill in the art would not be motivated to produce a proof for an offset press using the completely different technique of serigraphy. Specifically, offset printing is a relatively inexpensive technique in which a plate mounted on drum typically makes large numbers of high-resolution copies on plain paper. Serigraphy is instead typically a relatively expensive, low-resolution technique in which a squeegee is mechanically drawn along a screen to squeeze ink through the screen onto large format substrates, such as posters or wallpaper, or non-paper substrates, such as textiles, tiles, or printed circuit boards. It would therefore be extraordinarily unlikely that one of ordinary skill in the art would want to try to make proofs of material to be printed on offset presses with serigraphy. It may even be impossible to match the resolution of modern offset printers with serigraphy.

Independent claims 24-26 and 33-32 also distinguish over the prior art of record for at least reasons similar to those advanced in support of claim 19.

#### **Claim 34**

Claim 19 is directed to a proof generation method for ink jet proof printers that includes receiving print data to which a first halftoning technique has been applied, with this technique producing a plurality of dots. The method also includes altering at least a plurality of areas distributed within at least some of the dots with substantially the same color alteration, and providing the data to a proofing printer different from the target halftone printing press.

Performing substantially the same color alterations in the dots allows their color to be changed, without changing their size. This can permit copy from a proof printer to more closely match the dots of a particular printing press, even if the inks used on the two machines do not match. And more closely matched dots can make it easier to evaluate a proof for *Moiré* issues before undertaking the potentially expensive and time consuming task of running a corresponding print job on the press.

Claim 34 stands rejected as obvious over Spence in view of Vink. But neither Spence nor Vink teach performing substantially the same color alteration in a plurality of dots. As presented above, Spence tries to match colors on a dye sublimation printer to output of an offset press by determining changes in values of process color solid and tint densities. But these changes are then converted to dot size recommendations (col. 24, lines 37-38, col. 24, lines 32-34). Nowhere in Spence is there any disclosure or suggestion to alter a plurality of areas of screen dots with substantially the same color alteration.

And as presented above, Vink discloses a method of silk screen printing (serigraphy), in which a free flowing ink is pressed through screen cells of a screen, for use on materials such as posters, wallpaper, printed circuit boards, textiles, pottery, or floor tiles (col. 1, line 19-21, col. 2, line 60-65). Vink's disclosure discusses the reduction of *Moiré* patterns by appropriate orientation of the screens with respect to each other. But Vink makes no mention of any attempts to alter a plurality of areas of screen dots with substantially the same color alteration. Thus neither Spence nor Vink, whether taken alone or in combination, disclose or suggest the invention as claimed in claim 34.

Furthermore, as presented above, one of ordinary skill in the art would not be motivated to combine the teachings of the Spence and Vink applications in the manner set forth in the office action. This is because one of ordinary skill in the art would not be motivated to produce a proof for an offset press using the completely different technique of serigraphy. Specifically, offset printing is a relatively inexpensive technique in which a plate mounted on drum typically makes large numbers of high-resolution copies on plain paper. Serigraphy is instead typically a relatively expensive, low-resolution technique in which a squeegee is mechanically drawn along a screen to squeeze ink through the screen onto large format substrates, such as posters or wallpaper, or non-paper substrates, such as textiles, tiles, or printed circuit boards. It would therefore be extraordinarily unlikely that one of ordinary skill in the art would want to try to

make proofs of material to be printed on offset presses with serigraphy. It may even be impossible to match the resolution of modern offset printers with serigraphy.

Independent claims 40 and 41 also distinguish over the prior art of record for at least reasons similar to those advanced in support of claim 34. The remaining claims are dependent, and should be allowable for at least the reason that they depend on an allowable claim. Claim 42 is new and its examination is respectfully requested.

This application should now be in condition for allowance and such action is respectfully requested. The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0750.

Respectfully submitted,

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Dated

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